The Therapeutic Effects of Dead Sea Mineral-Based Skincare

By Allistair Mallia

Dead Sea mineral-based skincare can be considered a unique part of the 'Sea' cosmetic trend. The sea as a natural source of healing is quite an old concept. In 1750 Richard Russell presented his thesis on the Therapeutic Effect of Seawater at Oxford. And in 1869 the term thalassotherapy, or "bringing together the sea and medicine" was coined by the French physician LaBonardier d'Arachon.

More than 40 different skincare brands based on Dead Sea minerals are sold worldwide. The success of Dead Sea products and theincreasing consumer expectations can be attributed to quantifiable consumer satisfaction surveys. These include mineral content, active and natural ingredients, doctor recommendations and their healing capabilities for healthier skin.

A cosmetic product as defined by European Council Directive 76/768/EEC, is "any substance or preparation intended for placing in contact with the various external parts of the human body… with the intention, exclusively or principally of cleaning perfuming or protecting to keep such parts in good condition, change their appearance or correct body odours." Skincare claims today have moved from the "care" claims originally envisaged by the Directive to "prevention", "protection" and even "healing" claims which are permitted. The 1997 "6th Amendment" however obliges cosmetic producers and marketors to scientifically prove their declared performance claims.[1]

The composition of Dead Sea minerals is unique. At a concentration of 32% (w/v) dissolved minerals, the Dead Sea is the richest natural mineral source in the world. The concentration of the divalent cations, magnesium and calcium is very high compared with the monovalent cations, mainly sodium and potassium. In addition, the ionic strength of the solution is very high. Upon application to skin, a concentration cascade is created with unique absorption kinetics characterized by a steep gradient into the multilayered bio-membrane, that is human skin. The hygroscopic properties of the minerals in turn, enhance intracellular water capacity and add water to the skin tissue from within. This explains the proven positive influence of Dead Sea mineral skincare on the skin's natural moisture content and its beneficial action on eczematous and atopic skin.[2]

Another common claim of Dead Sea mineral skincare relates to its smoothing effect on skin aged by environmental exposure and senescence. Blinded laser profilometric studies conducted by European dermatologic research institutes, in accordance with the ISO 4287/1, have confirmed that anti-wrinkle gels enriched with Dead Sea ingredient reduce wrinkle depth and skin roughness by more than 40% in female cohorts.[3]

The unique black hypersaline mud mined from the Dead Sea shores is extensively used in mud packs, masks and topical body and facial treatments in skincare preparations marketed worldwide. The mud has well-documented beneficial properties on, notably, psoriatic and acneic skin. In microbiological studies using conventional bacteriological media, high counts (up to 20,000 colonies per gram) of test microorganisms known to be skin pathogens (Escherichia coli, Staphylococcus aureus, Propionibacterium acnes, Candida albicans) rapidly lost their viability when added to plates treated with Dead Sea mud.[4] This mud also has protective anti-oxidant and anti-inflammatory properties that can antagonize biological the effects of UVB irradiation on skin. It may therefore be able to reduce skin photoaging, and more generally to reduce oxidative stress and inflammation in skin pathologies.[5]

Bibliography
1 : http://ec.europa.eu/consumers/sectors/cosmetics/documents/directive/index_en.htm 2. Ma'or Z, Magdassi S, Efron D, Yehuda S. Dead Sea Mineral -Based Cosmetics - Facts and Illusions. Isr J Med Sci 1996; 32(suppl 3):28-36. 3. Ma'or Z, Voss W. Skin smoothing effects of Dead Sea minerals: comparative profilometric evaluation of skin surface. International Journal of Cosmetic Science 1997; 19(1) 4. Ma'or Z, Henis Y, Alon Y et al. Antimicrobial properties of Dead Sea black mineral mud. International Journal of Dermatology 2006; 45(5):504-11. 5. Portugal-Cohen M, Soroka Y, Ma'or Z et al. Protective effects of a cream containing Dead Sea minerals against UVB-induced stress in human skin. International Journal of Dermatology 2009; 18(9):781-8.